

REMARKS

Applicant thanks the Examiner for the thorough consideration given the present application. Claims 1, 3-5, 7, 9, 10 and 26-29 are currently being prosecuted. The Examiner is respectfully requested to reconsider his rejections in view of the amendments and remarks as set forth below.

Claim Rejection Under 35 U.S.C. §112

Claims 3 and 25 stand rejected under 35 U.S.C. §112, second paragraph, as being indefinite. This rejection is respectfully traversed.

The Examiner indicated that the recitation of a nonconductive precursor is confusing. By way of the present amendment, Applicant has revised this language to make it clear that it is nonconductive before heating. Thus, the precursor material is nonconductive but the application of heat causes the precursor to become an electrically conductive material. Applicant submits that the present claim is now clear and that this rejection is overcome.

Claim Rejection Under 35 U.S.C. §103

Claims 1, 3-5, 9 and 10 stand rejected under 35 U.S.C. §103 as being obvious over Roth (US Patent No. 5,826,329) in view of Sugii (JP 2-74095). This rejection is respectfully traversed.

Claim 1 has now been amended to add the limitations of claim 6 or 25. Since this rejection was not applied against these claims, Applicant submits that this rejection is overcome. Claim 6, 7 and 25 stand rejected under 34 U.S.C. §103 as being obvious over Roth in view of Sugii and further in view of Mosher (US Patent No. 5,973,600). This rejection is respectfully traversed.

The Examiner points out that Roth shows a method of forming electrically conductive pathways including a thermal transfer ribbon, moving past a heat source, engaging the ribbon with a receiver substrate, selectively heating the ribbon and transferring a composition to the receiver substrate. The Examiner admits that Roth does not show that the substrate is flexible.

The Examiner relies on Sugii to show the use of a flexible receiver substrate. Although this reference shows such a substrate, it does not teach any reason for replacing a stiff substrate with a flexible one. The Examiner states that the benefit is that it allows drying of the composition. While the reference mentions that it avoids the use of the drying process involved with conductive paint, this is not a reason why one would use the printing on a flexible substrate rather than a stiff one. Further, Applicant submits that the Examiner is incorrect in claiming such a benefit.

The Examiner cites the Mosher reference to teach the process of combining a receiver substrate with a microchip to form an antenna. Although the Mosher reference teaches that the chip may be connected to printing on the tag, it does not show any particular steps in the method of making this connection.

Applicant submits that claim 1 as amended is now patentable over the combination of Roth, Sugii, and Mosher. Applicant submits that it would not be obvious to one ordinary skill in the art to combine the three references in a way to teach the present invention. There is no motivation for one to replace the stiff circuit board of Roth with a flexible substrate. There is also no motivation for one to use the teachings of Mosher along with the other two references since those references do not require such a chip and antenna arrangement. Applicant submits that it would not be obvious to make this three-way combination. Accordingly, Applicant submits that claim 1 is allowable.

Claim 2-5, 7, 9, 10, and 26-28 depend from claim 1 as such are also considered to be allowable. In addition, each of these claims recite other features which make them additionally allowable. In regard to claim 3, the Examiner states that Roth shows a nonconductive precursor because the precursor does not have an electrical current flowing through the material. Applicant disagrees with the Examiner's understanding of the term

"nonconductive". This refers to the inherent capabilities of the material and not the current state of whether it is connected to a current or not. Accordingly, a piece of copper is conductive even if it is not connected to an electrical power source. Likewise, a nonconductive material is nonconductive by its own right regardless of whether it is connected to a power source. Accordingly, Applicant submits that Roth does not show a nonconductive precursor. Likewise, the remaining references do not show such a composition which becomes conductive upon the application of heat which is nonconductive previously. Accordingly, Applicant submits that claim 3 is additionally allowable.

In regard to claims 7, 27, and 28, the claims describe the step of fixing the chip to the substrate. This is not disclosed in any of the references. Mosher only describes that the circuit is formed and does not describe the specific step of attaching the chip. Accordingly, these claims are considered to be additionally allowable.

Claims 9, 10 and 26 describe specific materials used in the formation of the conductive material. Applicant submits that these claims are additionally allowable since the references do not show specific compositions such as are described in the claims. In regard to claim 26 specifically, the Examiner cites the Schmoock reference to show the use of copper sulfate. However, Applicant

submits that this additional reference makes the claim even less obvious since this requires the combination of four references.

Applicant has also added new claim 29 which is based on a combination of claims 1 and 3. However, this claim further describes the ribbon as including the nonconductive precursor material. This claim also describes the activation of this material to form an electrically conductive material. No other references teach the specific precursor as being part of the ribbon and as being heated to activate it. Accordingly, Applicant submits that this claim is also allowable.

Conclusion

In view of the above remarks, it is believed that the claims clearly distinguish over the patents relied on by the Examiner, either alone or in combination. In view of this, reconsideration of the rejection and allowance of all of the claims are respectfully requested.

In the event that any outstanding matters remain in this application, the Examiner is invited to contact the undersigned at (703) 205-8000 in the Washington, D.C. area.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees

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required under 37 C.F.R. §§ 1.16 or 1.17; particularly, extension of time fees.

Respectfully submitted,

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